

FEDERAL MINE DEVELOPMENT CO.

HERBERT B. ATHA, President.

This company has been formed to take over and develop good mining prospects, not to sell stock, and would be pleased to have any worthy properties called to its attention.

OFFICE: Arizona Egyptian Cotton Co.
5th and Buchanan Sts. Phoenix

The MINES of ARIZONA

This department is under the direction of Mr. W. E. Defty, the well known mining engineer, who will carefully scrutinize all matters relating to mining in order that only reliable information regarding legitimate enterprises shall find a place here.

The Republic will be pleased to receive information from any part of the state regarding the development of the mining industry. All communications should be addressed: Mining Department, Arizona Republican.

What He Saw in Arizona

President Carl Scholz of the American Mining Congress after his return to Chicago from a tour of the west addressed a meeting of the congress there and said among other things:

"I have just returned from attendance at the Arizona meeting of the American Institute of Mining Engineers. While there I was asked to speak on the essential difference between that body and the American Mining Congress. I told them that I deemed their body the medical adviser of capital, for their business is to advise on investments. And the American Mining Congress is the spiritual adviser to all interests in mining. We take up the problems that all have in common and try to find a solution for them by advocating needed legislation and needed reforms."

"While in Arizona at the convention I took occasion to invite to our gathering J. S. Douglas, the man who discovered what may possibly be the greatest copper mine in the world, the United Verde Extension."

"And this reminder of one great topic which is coming before the con-

vention of flotation. To the lay mind that means but little. To the mining man it spells revolution in the matter of mining production. Think of it! By the flotation process they are mining profitably copper ore running 1.5% to 2% copper, which is simply the use of oil bubbles to float crushed ore, has put a value of millions into vast tailing dumps.

"And not alone will the government experts discuss flotation, but the men who are making enormous saving in values wherever there are sulphide ores will be in attendance to tell the world how the simplest of ideas, the affinity of a little foaming oil for sulphide ores, is enriching the world by millions and millions—all of which had previously been washed away or gone up in smoke, or was lying in vast refuse dumps at every mine."

Miami Copper Co.
Profits approximating \$5,500,000 will have accrued to Miami Copper Co. from operations during the first nine months of this year—estimating September results. This will be equal to \$7 per share, or more than sufficient to pay a full year's dividend requirements at the current \$4 rate.

Surplus funds amount to about \$5,000,000, which will have been augmented materially by the time the November dividend payment of \$1.50 per share falls due.

Profits for the six months ended June 30 totaled \$3,439,000. It is estimated that profits for the third quarter will approximate \$2,150,000, or 66% of the net for the first six months.

Miami has sold itself well ahead at high prices. Although not participating in the big copper sale, Miami has effected sales through the early months of 1917 at prices equaling and in some instances higher than the average to be paid on the big export contract.

Ore Sampling

The sampling of an ore forms a very important part of the operation carried out in a mill or smelter, although the reasons for systematic sampling in a concentrating plant are not perhaps always the same as those in the case of a smelter. Where a company smelts and concentrates its own ores, the sampling in the mill is done more for a check on the work and an indication as to what is being done, rather than for any other reason.

When a lot of ore comes to a smelter, it is highly essential to know its composition and value, because of the fact that, in order to smelt it correctly, certain fluxes must be added, and the basis for figuring the quantities of these fluxes is upon the analysis of the ore samples. Therefore, irrespective of any necessity for correct sampling in order to get correct payment, the smelter must have correct samples for its own use, and the sampling department is one of the most important in a smelter. Upon this correct sampling depends the efficiency of operation of the plant.

Early Arizona Mining

Historically, the first and most interesting of all the mining activities within the State of Arizona are those of Santa Cruz county, inasmuch as it was the first area that the Jesuit fathers founded a chain of missions in the Valley of the Santa Cruz river and farther south into Mexico. According to "La Historia del Nayarit," an account of the "labors of the Society of Jesus in Semipalmir, Nayarit," which work was written by Fra Ortega, one of that order, Father Eusebio Kino, whose name has been immortalized by the State Bureau of Mines, as Father Kino, came from the City of Mexico in 1686, and locating in 1691 mission at a point about thirty miles south of the present international boundary between the United States and Mexico, and the mission and the river beside whose mouth the mission of the Mission Dolores and the other Rio Dolores. From that point as a base of operations the devoted missionary established missions at Coscoroba, Remedios, Santa Barbara, and others.

In the Santa Cruz Valley, below the Santa Barbara Mission, Fra Kino built other missions, the first at San Felipe Guaymas, about nine miles northeast of Nogales; another at San Cayetano del Tumacacori, about nineteen miles northwest from the same town; a third at Santiago, the site of which point is not known accurately now; and the fourth at San Xavier del Bac, nine miles south of Tucson. San Xavier has been restored by the federal government, and it is one of the show places of Arizona.

In the vicinity of each mission was a presidio, or military post, with a garrison sufficiently strong for protection of the surrounding region from the marauding Apaches who occupied regions beyond the San Pedro and Gila, whence they were wont to make excursions of rapine and ravage into the country of the Pimas and the Papagos, peaceable Indians occupying these regions, who readily embraced Christianity, coming easily under the domination of the gentle priests. These Indians were tillers of the soil and laborers. From among them were drawn the workers in the mines and on the ranches that the friars and laymen among the Spaniards discovered and exploited. Tubac, on the Santa Cruz, twenty miles from Nogales, was the presidio near Tumacacori, and recently there have been unearthed a lot of old, rusty, twelve pound cannon balls, were no doubt for use in some of the artillery of the garrison. Indian village, was the presidio for protection of the country surrounding.

According to the history of that time and the records of the mission now preserved in Spain, the friars at Tumacacori discovered and wrought rich silver mines in the Santa Rita mountains to the northeast, and in the Atacosa mountains on the southwest.

The Salero mines and other properties in the Santa Rita are known to have been operated by the friars, and in places vestiges of their workings are found today. In recent years parties from California, having a plat or map with a written description of the location, said to have come from the archives of the old mission, has been searching in the Atacosa mountains for the abandoned mine that the record which they have told of having been exploited by the friars. Those opera-

tions are established to have been inaugurated very shortly after completion of the mission church and cloister at Tumacacori, 1688. So there is presented the record of the first mining done on the Pacific slope of the United States.

FINANCES AND MARKETS

[Republican A. P. Leased Wire]

NEW YORK, Oct. 14.—An undercurrent of caution prevailed in today's stock market operations. This was particularly true of the leaders, United States Steel showing decided restraint with allied industrials. Bethlehem Steel yielded 3 points, while the 1 cent rise for Republic Iron & Steel, Colorado Fuel, Industrial Alcohol, New York Air Brake and some of the leading stocks. This was partly counterbalanced by the strength of shipping stocks. Bonds were strong at the outset, but sagged in the last hour. Total sales of stocks amounted to 455,000 shares.

Copper failed to respond to reports of additional foreign orders for delivery early in 1917 at not less than 28 cents a pound. Representatives of the big producing companies could not confirm these reports.

Bonds also developed an easier trend on light demands. Total sales, par value, \$2,500,000. United States and Panama bonds advanced $\frac{1}{8}$ to $\frac{1}{2}$ of 1 per cent on call during the week.

MONEY

NEW YORK, Oct. 14.—Money market, 3 1/2% sterling 60 day bills, \$47 1/4; demand, \$47 1/4; cables, \$47 1/4. Bar silver, 68c; Mexican dollars, 52 1/2c. Government bonds strong; railroad bonds easier.

American Beet Sugar, 97; American Can, 57 1/2; American Car and Foundry, 63 1/2; American Locomotive, 14 1/2; Amer. Smelting & Refining, 105 1/2; American Sugar Refining, 114 1/2; American Tel. & Tel., 132 1/2; American Zinc, Lead & Smelt., 45; Chesapeake & Ohio, 105; Atchafalaya, 105; Baldwin Locomotive, 73 1/2; Baltimore & Ohio, 56 1/2; Brooklyn Rapid Transit, 34 1/2; Butte and Superior, 61 1/2; California Petroleum, 22; Canadian Pacific, 175 1/2; Central Leather, 73 1/2; Chesapeake & Ohio, 105; Chicago, Mil. & St. Paul, 94 1/2; Chicago & North Western, 126; Chicago, R. I. & Pac. Ry., 23 1/2; Chino Copper, 125 1/2; Colorado Fuel & Iron, 68 1/2; Corn Products Refining, 15 1/2; Crucible Steel, 79 1/2; Distillers Securities, 42; Erie, 126; General Electric, 126; Great Northern Pfd., 117 1/2; Great Northern Ore Cts., 40 1/2; Illinois Central, 107 1/2; Interborough Consol. Corp., 17 1/2; Inspiration Copper, 62; International Harvester, N. J., 115; Int. Mer. Marine Pfd. Cfs., 107 1/2; Kansas City Southern, 27 1/2; Kennecott Copper, 51; Louisville & Nashville, 135; Mexican Petroleum, 22 1/2; Miami Copper, 37; Missouri, Kansas & Texas Pfd., 12; Missouri Pacific, 43; Montana Power, 92; National Lead, 67 1/2; Nevada Copper, 21; New York Central, 107 1/2; N. Y. N. H. & Hartford, 59 1/2; Norfolk & Western, 144 1/2; Northern Pacific, 110 1/2; Pacific Mail, 24 1/2; Pacific Tel. & Tel., 132 1/2; Pennsylvania, 57 1/2; Ray Consolidated Copper, 25; Reading, 105 1/2; Rep. Iron & Steel, 68 1/2; Shattuck Arizona Copper, 28 1/2; Southern Railway, 100; Southern Railway, 27 1/2; Studebaker & Sons Pfd., 22 1/2; Tennessee Copper, 22 1/2; Texas Company, 219; Union Pacific, 146 1/2; U. S. Steel, 82 1/2; U. S. Industrial Alcohol, 68 1/2; United States Steel, 108 1/2; United States Steel Pfd., 120; Utah Copper, 92 1/2; Utah Copper Pfd., 100 1/2; Western Union, 100 1/2; Westinghouse Electric, 60 1/2.

Total sales for the day 455,000 shares.

FINANCIAL STATEMENT

NEW YORK, Oct. 14.—The statement of the actual condition of clearing house banks and trust companies for the week ending Oct. 13, 1916, shows \$68,914,410 reserve in excess of legal requirements. This is a decrease of \$13,641,070 from last week. The statement follows:

Actual condition:

Loans, discounts, etc., \$3,337,732,000; decrease, \$17,164,000.

Reserve in own vaults (B), \$408,960,000; decrease, \$27,000,000.

Reserve in federal reserve banks, \$171,012,000; increase, \$890,000.

Reserve in other depositories, \$52,957,000; decrease, \$904,000.

Net demand deposits, \$3,271,097,000; decrease, \$42,316,000.

Net time deposits, \$165,842,000; decrease, \$2,256,000.

Circulation, \$31,484,000; increase, \$402,000.

(B) Of which \$342,922,000 is specie.

Aggregate reserve, \$632,929,000.

Excess reserve, \$68,914,410; decrease, \$13,641,070.

Summary of state banks and trust companies in Greater New York, not included in clearing house statement:

Loans, discounts, etc., \$726,307,500; increase, \$6,909,000.

Specie, \$59,549,100; increase of \$993,100.

Legal tenders, \$9,986,900; increase, \$214,000.

Total deposits, \$909,788,300; increase, \$1,816,100.

Banks' cash reserve in vaults, \$15,092,500.

Trust companies' cash reserve in vaults, \$56,426,400.

RESERVE BOARD STATEMENT

WASHINGTON, Oct. 14.—The federal reserve board's statement of combined resources and liabilities of the federal reserve banks at the close of business October 14 follows:

Resources:

Gold coin and certificates in vault, \$267,400,000.

Gold settlement fund, \$125,261,000.

Gold depository fund with United States treasurer, \$1,687,000.

Total gold reserve, \$394,348,000.

Legal tender notes, silver, etc., \$11,372,000.

Total reserve, \$405,720,000.

Five per cent redemption fund against federal reserve bank notes, \$370,000.

Bills discounted and bought:

Maturities within ten days, \$13,543,000.

From 31 to 60 days, \$27,175,000.

From 61 to 90 days, \$23,958,000.

Over 90 days, \$1,191,000.

Total, \$95,667,000.

Investments:

United States bonds, \$42,642,000.

One year U. S. treasury notes, \$10,444,000.

Municipal warrants, \$31,542,000.

Total earning assets, \$184,114,000.

Federal reserve notes, net, \$15,280,000.

Due from federal reserve banks, net, \$30,059,000.

All other resources, \$2,675,000.

Total resources, \$303,252,000.

Liabilities:

Capital paid in, \$55,682,000.

Government deposits, \$24,715,000.

Member bank deposits, net, \$444,043,000.

Federal reserve notes, net, \$12,315,000.

Federal reserve bank notes in circulation, \$1,033,000.

All other liabilities, \$464,000.

Total liabilities, \$638,252,000.

Gold reserve against net deposit and note liabilities, 71.6 per cent.

Cash reserve against net deposit and note liabilities, 73.5 per cent.

Cash reserve against net deposit liabilities after setting aside 40 per cent gold reserve against aggregate net liabilities on federal reserve notes in circulation, 74.4 per cent.

CHICAGO, Oct. 14.—Uneasiness over prospects of submarine activities between now and Monday had a bearish effect on wheat today. The outcome was an unsettled close, with December \$1.57 1/2; May \$1.57 1/2 to 3/4 and the market as a whole 3/4 c off to 1/2 c up compared with yesterday's finish. Corn lost 1/4 c to 3/4 c, and oats 1/4 c to 1/2 c. Provisions closed at a range which varied from sixty cents decline to a rise of 2 1/2 c.

Congestion of transportation on eastern roads, especially at Buffalo, did a good deal to handicap the bull side of the market, and so too did signs of an enlargement of the United States visible supply total on Monday.

Corn eased off with wheat. Export corn sales of 610,000 bushels, however, prevented any radical setback. Big receipts weakened oats.

The total for the week was more than double the amount at the corresponding time last year.

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